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10/652,103	08/29/2003	Clifford P. Krieger	7016 PTG	9852
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REISING, ETHINGTON, BARNES, KISSELLE, P.C. P O BOX 4390 TROY, MI 48099-4390			EXAMINER HOOK, JAMES F	
			ART UNIT	PAPER NUMBER
			3754	

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Please find below and/or attached an Office communication concerning this application or proceeding.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 15 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Phillips. The patent to Phillips discloses the recited restrictor for use in pulsation absorbing comprising a restrictor 16 in the form of a venturi where the ends of the restrictor can be seen in the figures to be expanding in opening diameter at the ends from a smaller diameter throat in the middle which is a convergent divergent type of restrictor, where such is provided in a flexible tube 14, it has ribs formed in the outer wall as seen in figure 4 and is held within the flexible tube by crimped bands 48, where such inherently would control turbulence as set forth in claim 6, such is used in a hydraulic system which inherently would be known to include pumps, and such is use for power steering is considered covered by Phillips which also would be inherently known to contain power steering gear.

Claims 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Katayama (534). The patent to Katayama discloses the recited restrictor for use in pulsation absorbing comprising a restrictor 10 in the form of a venturi where the ends of the restrictor can be seen in the figures to be expanding in opening diameters at the ends from a smaller diameter throat in the middle which is a convergent divergent type of

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restrictor, where such is provided in a flexible tube 2, it is held within the flexible tube by crimped bands 18, where such inherently would control turbulence as set forth in claim 6, such is used in a hydraulic system which inherently would be known to include pumps, and such is use for power steering is considered covered by Katayama which also would be inherently known to contain power steering gear.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 6-8, 13, 14, 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips in view of Stavropoulos. The reference to Phillips discloses all of the recited structure with the exception of the restrictor being dimensioned such that the throat is relatively short in axial length compared to that of the inlet and outlet passages which are formed as a shallow tapered angle. The patent to Stavropoulos discloses that it is old and well known in the art of restrictor pieces inserted into passageways such as 32 can be formed of many shapes and dimensions as seen in figs 8a-d where 8c shows a structure with a long throat and short less shallow tapered inlets and outlets, and 8d which shows a short throat with longer more shallow tapered inlets and outlets. It would have been obvious to one skilled in the art to modify the restrictor in Phillips by changing the dimensions to meet the conditions met by the

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restrictor when placed in a passageway as suggested by Stavropoulos which teaches the equivalences of the various shapes and dimensions used in restrictors and which are chosen to meet the needs of the user.

Claims 1, 6-8, 13, 14, 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katayama (534) in view of Stavropoulos. The reference to Katayama discloses all of the recited structure with the exception of the restrictor being dimensioned such that the throat is relatively short in axial length compared to that of the inlet and outlet passages which are formed as a shallow tapered angle. The patent to Stavropoulos discloses that it is old and well known in the art of restrictor pieces inserted into passageways such as 32 can be formed of many shapes and dimensions as seen in figs 8a-d where 8c shows a structure with a long throat and short less shallow tapered inlets and outlets, and 8d which shows a short throat with longer more shallow tapered inlets and outlets. It would have been obvious to one skilled in the art to modify the restrictor in Katayama by changing the dimensions to meet the conditions met by the restrictor when placed in a passageway as suggested by Stavropoulos which teaches the equivalences of the various shapes and dimensions used in restrictors and which are chosen to meet the needs of the user.

Claims 2, 4, 9, 10, 16, 17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips in view of Stavropoulos as applied to claims 1, 6-8, 13, 14, 22 and 24 above, and further in view of Moseley, Jr.

Claims 2, 4, 9, 10, 16, 17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katayama (534) in view of Stavropoulos as applied to claims 1, 6-8, 13, 14, 22 and 24 above, and further in view of Moseley, Jr.

The patents to Phillips and Katayama as modified disclose all of the recited structure with the exception of forming the restrictor of plastic and the angles of the inner walls of the venturi, and specific design values. It is considered an obvious choice of mechanical expedients to form the restrictor of any dimensions where such would only require routine skill in the art to modify dimension to arrive at optimum values as such is merely a choice of mechanical expedients and it would have been obvious to one skilled in the art to use routine skill and experimentation in the art to arrive at optimum values for the restrictors of Phillips and Katayama as supported by the teachings of Stavropoulos. The patent to Moseley, Jr. discloses that it is old and well known in the art to form restrictors in tubes of any type of material including metal or plastic, where an angle of 4 degrees for the wall of the restriction is also known in the art. It would have been obvious to one skilled in the art to modify the restrictor in Phillips or Katayama as modified by forming the restrictor of any material including metal or plastic and to form the angled walls of the restrictor with a 4 degree angle as suggested by Moseley, Jr. where such are known materials used for the restrictors and known angles for restrictor walls where such will improve quality and meet the environmental needs of the user to reduce replacement costs for failure of the restrictor due to use of a material that is not as durable in certain environments where corrosion can exist.

Claims 5, 11, 12, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katayama (534) in view of Stavropoulos as applied to claims 1, 6-8, 13, 14, 22 and 24 above, and further in view of Van Ruiten. The patent to Katayama as modified discloses all of the recited structure with the exception of providing a tuning cable to the restrictor. The patent to Van Ruiten discloses that it is old and well known in the art to provide restrictor 24 provided in flexible tube 21 by clamping element can be provided with a tuning cable 36. It would have been obvious to one skilled in the art to provide the restrictor in Katayama with a tuning cable as suggested by Van Ruiten where such would further attenuate pulsations and would improve the usefulness of the device thereby saving money by being more effective than a restrictor without a tuning cable. Forming the cable of plastic is considered old and well known in the art and such is already attached in Van Ruiten.

Response to Arguments

Applicant's arguments with respect to claims 1, 2, 4-14, 16, 17, 19, 21, 22 and 23 have been considered but are moot in view of the new ground(s) of rejection. With respect to Phillips and Katayama not teaching the method of claim 15, such is not persuasive when it is considered inherent that one designing the system would inherently have to match characteristics of the fluid and various other dimensional with the desired result and that such inherently would involve the use of Reynolds number which is considered in most design engineering situations dealing with fluid flow and noise attenuation. Therefore, such is considered inherent to the articles of the cited

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references. With respect to the new claims, it is known that both the Phillips and Katayama references deal with power steering systems and both use flexible hoses with restrictors to attenuate pulsations in flow from pumps in the power steering systems. Therefore, these devices are inherent to the system in which the tubes are used and therefore considered taught by the cited references. Most of the remaining arguments are directed toward amended claims which resulted in new rejections which cover the arguments. With respect to using Moseley, Jr. to form restrictors of plastic, the reference teaches the equivalence of using the two different materials thereby providing the necessary motivation. With respect to Van Ruiten such is in the same field of endeavor as the other references and therefore teaches alternative embodiments where tuning cables can also be used. The use of plastic tuning cables is old and well known in the art and a choice of mechanical expedients.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patents to Gargan, Walch, Sweet, Jr., and Chenault disclosing state of the art restrictors.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

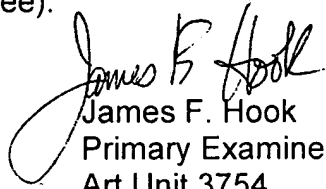
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James F. Hook whose telephone number is (571) 272-4903. The examiner can normally be reached on Monday to Wednesday, work at home Thursdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Mar can be reached on (571) 272-4906. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


James F. Hook
Primary Examiner
Art Unit 3754

JFH